

comparator (CMP) is then made available to the input of a driver transistor (DT). Morishita states:

Comparator CMP reduces its output signal level if the internal power supply voltage INVcc is lower than the reference voltage Vref, while it outputs a signal at an H level when the internal power supply voltage INVcc is higher than the reference voltage Vref. Driver transistor DT has its conductance increased with reduction in potential level of the output signal of comparator CMP, to supply large current. Meanwhile, the driver transistor DT has its conductance reduced with the internal power supply voltage INVcc being higher than the reference voltage Vref, to stop current supply onto internal power supply line PSL. This internal power supply down-converter therefore maintains the internal power supply voltage INVcc at the reference voltage Vref level. An internal circuit INC operates with the internal power supply voltage INVcc on internal power supply line PSL as one operating power supply voltage.

(Column 2, lines 21 - 37.) Thus, it is respectfully submitted that Morishita does not use “a unity gain amplifier responsive to said reference signal for producing the reference voltage” such that a rejection of claim 223 under §102 based on Morishita would not be proper.

Claims 225 – 227 and 496, 499, and 500 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Morishita in view of Furumochi (US Pat. No.: 5,473,277). Claims 225 – 227 are dependent from claim 223. As discussed above, Morishita does not disclose a unity gain amplifier as recited in claim 223, and the Examiner has cited nothing in Furumochi to supply the missing teachings. Accordingly, it is believed that claims 225 – 227 are in condition for allowance.

Claim 496, like allowable claim 223, recites “a unity gain amplifier responsive to said reference signal for producing the reference voltage.” For the same reasons discussed above in conjunction with claim 223, it is believed that claim 496 is in condition for allowance. Claims 499 – 500 depend from allowable claim 496, and thus, are also in condition for allowance. Accordingly, it is respectfully requested that the rejection of claims 499 – 500 be withdrawn.

Claims 228 – 231 and 501 – 504 stand rejected under 35 U.S.C. § 103 (a) as being unpatentable over Morishita in view of Park (US Pat. No.: 5,448,199). Claims 228 – 230 and claims 501 – 503 depend from allowable claims 223 and 496, respectively. As discussed above, Morishita does not disclose a unity gain amplifier as recited in claims 223 and 496. Furthermore, the Examiner has cited nothing in Park to supply the missing teachings. Thus, it is believed that claims 228 – 230 and 501 – 503, respectively, are in condition for allowance. Accordingly, it is respectfully requested that the rejection of claims 228 – 230 and 501 – 503 be withdrawn.

Although the Examiner stated that independent claims 231 and 504 were rejected under 35 U.S.C. §103(a) as being unpatentable over Morishita in view of Park, the Examiner does not provide a detailed explanation of the rejection. Instead, the Examiner provides a detailed rejection

for claims 231 and 504 pursuant to §103(a) as being unpatentable over Tsay et al (US Pat. No.: 6,127,881) in view of Morishita. Applicants address the rejection based on Tsay et al. below and respectfully request clarification as to whether claims 231 and 504 stand rejected pursuant to §103(a) as being unpatentable over Morishita in view of Park, and if so, the reasons for the rejection.

Claims 231 and 504 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over Tsay et al (US Pat. No.: 6,127,881) in view of Morishita. As to claims 231 and 504, the Examiner stated:

Tsay's figure 2 shows a multiplier circuit for generating a voltage signal higher than a reference voltage (V_{ref}). Thus, Tsay's figure 2 shows all limitations of the claims except for detail of the reference circuit. However, Morishita's figures 17 and 19 shows a reference circuit comprising an active reference circuit (VRG) and a unity gain circuit (CMP, DT). Morishita's figure 17 having the advantage of generating a stable reference signal. Therefore, it would have been obvious to one having ordinary skill in the art to use Morishita's figure 17 for Tsay's reference circuit for the purpose of having a stable reference signal.

Claims 231 and 504 both recite "a unity gain amplifier responsive to said reference signal for producing a reference voltage." As discussed above, Morishita does not disclose a unity gain amplifier. Additionally, the Examiner has cited nothing in Tsay to supply the missing teachings. Thus, it is believed that independent claims 231 and 504 are in condition for allowance. Accordingly, it is respectfully requested that the rejection of claims 231 and 504 be withdrawn.

Claims 232 – 237 and 505 – 510 stand rejected under 35 U.S.C. §103 (a) as being unpatentable in view of the references cited in the Office action. Claims 232 – 237 and 505 – 510 are dependent from claims 231 and 504, respectively. Thus for the same reasons discussed above in conjunction with claims 231 and 504, it is believed that claims 232 – 237 and 505 – 510 are in condition for allowance. Accordingly, it is respectfully requested that the rejection of claims 232 – 237 and 505 – 510 be withdrawn.

Claims 247 – 250 stand rejected under 35 U.S.C. §103 (a) as being unpatentable over Hayakawa in view of Tsay, Morishita and Park. As to claims 247, the Examiner stated, "claim 247 recites similar limitations of claims 232-237 ... therefore, it is rejected for the same reasons." Claim 247 recites "amplifying the reference signal with a unity gain amplifier for producing a reference voltage when the external voltage is above said first predetermined value." As discussed above, Hayakawa in view of Tsay, Morishita and Park fails to teach the use of a unity gain amplifier for producing a reference voltage. Thus for the same reasons discussed above in conjunction with claims 231 and 504, it is believed that claim 247 is in condition for allowance. Claims 248 – 250 are dependent from allowable claim 247. Accordingly, it is respectfully requested that the rejection of claims 247 – 250 be withdrawn.

Applicants have made a diligent effort to place the claims in condition for allowance. Accordingly, a Notice of Allowance for claims 223, 225 – 237, 247 – 250, 496, and 499 – 510 is respectfully requested. If the Examiner is of the opinion that the instant application is in condition for disposition other than through allowance, the Examiner is respectfully requested to contact applicants' attorney at the telephone number listed below so that additional changes may be discussed.

A complete set of the claims currently pending is enclosed herewith.

Respectfully submitted



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